

IN THE CLAIMS:

Please note that all claims currently pending and under consideration in the referenced application are shown below. Please enter these claims as amended. This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently amended) A method for preparing a surface of a semiconductor device structure for planarization, comprising:
providing a semiconductor device structure including at least one recess formed in a surface thereof and a first material layer substantially filling ~~said~~the at least one recess and covering ~~said~~the surface, ~~said~~the first material layer having a nonplanar surface;
applying a second material to ~~said~~the first material layer; and
spreading ~~said~~the second material over ~~said~~the first material layer so as to form a second material layer having a substantially planar surface without requiring subsequent planarization of ~~said~~the second material.
2. (Currently amended) The method of claim 1, wherein ~~said~~ applying ~~said~~the second material comprises applying a stress buffer material to ~~said~~the first material layer.
3. (Currently amended) The method of claim 1, wherein ~~said~~the spreading comprises:
spinning ~~said~~the semiconductor device structure at a first speed;
gradually decreasing a rate of ~~said~~the spinning to a second speed; and
gradually increasing a rate of ~~said~~the spinning to a third speed.
4. (Currently amended) The method of claim 3, wherein spinning ~~said~~the semiconductor device structure at ~~said~~the second speed comprises permitting ~~said~~the second material within ~~said~~the at least one recess to at least partially set.

5. (Currently amended) The method of claim 3, wherein spinning ~~said~~the semiconductor device structure at ~~said~~the third speed comprises forming ~~said~~the second material over ~~said~~the surface to a desired thickness.

6. (Currently amended) The method of claim 1, wherein ~~said~~ providing comprises providing a shallow trench isolation structure with ~~said~~the at least one recess comprising at least one trench formed in a surface of ~~said~~the shallow trench isolation structure.

7. (Currently amended) The method of claim 6, wherein ~~said~~ providing further comprises providing ~~said~~the shallow trench isolation structure with ~~said~~the first material layer comprising an electrical insulator material.

8. (Currently amended) The method of claim 1, wherein ~~said~~ providing comprises providing a semiconductor device structure with ~~said~~the at least one recess comprising at least one dual damascene trench formed therein.

9. (Currently amended) The method of claim 8, wherein ~~said~~ providing further comprises providing a semiconductor device structure with ~~said~~the first material layer comprising conductive material.

10. (Currently amended) The method of claim 2, wherein ~~said~~ spreading comprises at least partially filling at least one valley of ~~said~~the first material layer with ~~said~~the stress buffer material while leaving at least one peak of ~~said~~the first material layer substantially uncovered by ~~said~~the stress buffer material.

11. (Currently amended) The method of claim 10, further comprising planarizing at least ~~said~~the first material layer.

12. (Currently amended) The method of claim 11, wherein ~~said~~ planarizing comprises etching at least one region of ~~said~~the first material layer exposed through ~~said~~the stress buffer material with selectivity over ~~said~~the stress buffer material.

13. (Currently amended) The method of claim 12, wherein ~~said~~ etching is effected until a surface of ~~said~~the at least one region is in substantially the same plane as a surface of ~~said~~the stress buffer material.

14. (Currently amended) The method of claim 13, wherein ~~said~~ planarizing further comprises abrasively planarizing ~~said~~the stress buffer material and ~~said~~the at least one region to expose ~~said~~the surface of ~~said~~the semiconductor device structure adjacent ~~said~~the at least one recess, ~~said~~the surface of ~~said~~the semiconductor device structure and a surface of ~~said~~the first material layer in ~~said~~the at least one recess being located in substantially the same plane following ~~said~~ planarizing.

15. (Currently amended) The method of claim 13, wherein ~~said~~ planarizing further comprises concurrently etching ~~said~~the first material layer and ~~said~~the stress buffer material at substantially the same rate so as to expose ~~said~~the surface of ~~said~~the semiconductor device structure adjacent ~~said~~the at least one recess with ~~said~~the surface of ~~said~~the semiconductor device structure and a surface of ~~said~~the first material layer in ~~said~~the at least one recess being located in substantially the same plane following ~~said~~the planarizing.

16. (Previously Presented) The method of claim 11, wherein ~~said~~ planarizing is effected until ~~said~~the surface of ~~said~~the semiconductor device structure is exposed through ~~said~~the first material layer.

17. (Currently amended) The method of claim 16, wherein ~~said~~ etching is effected until a surface of ~~said~~the first material layer in ~~said~~the at least one recess is in substantially the same plane as ~~said~~the surface of ~~said~~the semiconductor device structure.

18. (Currently amended) The method of claim 16, further comprising removing ~~said~~the stress buffer material from ~~said~~the semiconductor device structure.

19. (Currently amended) The method of claim 2, wherein ~~said~~ spreading comprises forming a substantially planar surface over ~~said~~the semiconductor device structure.

20. (Currently amended) The method of claim 19, further comprising planarizing at least ~~said~~the first material layer.

21. (Currently amended) The method of claim 20, wherein ~~said~~ planarizing comprises substantially concurrently abrasively planarizing ~~said~~the stress buffer material and ~~said~~the first material layer to expose ~~said~~the surface of ~~said~~the semiconductor device structure adjacent ~~said~~the at least one recess, ~~said~~the surface of ~~said~~the semiconductor device structure and a surface of ~~said~~the first material layer in ~~said~~the at least one recess being located in substantially the same plane following ~~said~~ planarizing.

22. (Currently amended) The method of claim 20, wherein ~~said~~ planarizing comprises substantially concurrently etching ~~said~~the first material layer and ~~said~~the stress buffer material at substantially the same rate so as to expose ~~said~~the surface of ~~said~~the semiconductor device structure adjacent ~~said~~the at least one recess with ~~said~~the surface of ~~said~~the semiconductor device structure and a surface of ~~said~~the first material layer in ~~said~~the at least one recess being located in substantially the same plane following ~~said~~ planarizing.